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| 09/819,939 | 03/28/2001 | Steven Mentzer | 7032/1002 | 2967 |

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| EXAMINER |
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LEROUX, ETIENNE PIERRE

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| ART UNIT | PAPER NUMBER |
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2171

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DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,939

Applicant(s)

MENTZER, STEVEN

Examiner

Etienne P LeRoux

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-5, 7-13 and 15-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 7-13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Objections:

Applicant is advised that should claim 1 be found allowable, claim 18 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Furthermore, Applicant is advised that should claim 5 be found allowable, claim 20, will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Furthermore, Applicant is advised that should claim 9 be found allowable, claim 22, will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Furthermore, Applicant is advised that should claim 13 be found allowable, claim 24, will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Furthermore, Applicant is advised that should claim 11 be found allowable, claim 23, will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Furthermore, Applicant is advised that should claim 7 be found allowable, claim 21, will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 3 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 15 recite "wherein the histograms have been subjected to kernel smoothing or kernel density estimation." The is insufficient antecedent basis for the histograms.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 5, 9, 13, 18, 20, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,196,510 issued to Rodwell et al (hereafter Rodwell) and further in view of Applicant admitted prior art.

Claims 1, 5, 9, 13, 18, 20, 22 and 24:

Rodwell discloses a system allowing users to obtain information on monospecific probes in an online directory comprising:

- a web site containing a database of monospecific probe properties [computer with access to databases, col 13, lines 48-55],

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- connected to users through a computer network to allow users to enter selection criteria for retrieving monospecific probe properties [screened to find monoclonal antibodies, col 13, lines 48-58];
- wherein the web site produces a list of matching information on monospecific probes matching the selection criteria and displays the matching information on monospecific probes on the list in an order determined by each matching probe's similarity to the selection criteria [col 13, lines 40-55].

Rodwell discloses the elements of claim 1 as listed above.

Rodwell fails to disclose wherein said database comprises monospecific probe properties identified by flow cytometry.

Applicant's admitted prior art discloses wherein said database comprises monospecific probe properties identified by flow cytometry [Amendment A of 12/19/2003, Page 7]¹

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rodwell to include wherein said database comprises monospecific probe properties identified by flow cytometry as disclosed by Applicant as admitted prior art.

The ordinarily skilled artisan would have been motivated to modify Rodwell per the above for the purpose of producing histograms so that diseases can be identified.

¹ Applicant submits that flow cytometry is well known in the art and thus a property of a monospecific probe identified by flow cytometry will be evident to one of skill in the art.

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Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rodwell and applicant admitted prior art and further in view of US Pat No 5,596,703 issued to Eick et al (hereafter Eick).

Claims 3 and 15:

The combination of Rodwell and applicant admitted prior art discloses the elements of claim 1 as noted above.

The combination of Rodwell and applicant admitted prior art fails to disclose wherein the histograms have been subjected to kernel smoothing or kernel density estimation.

Eick discloses wherein the histograms have been subjected to kernel smoothing or kernel density estimation [col 5, lines 44-58].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rodwell and applicant admitted prior art to include wherein the histograms have been subjected to kernel smoothing or kernel density estimation as taught by Eick.

The ordinarily skilled artisan would have been motivated to modify the combination of Rodwell and applicant admitted prior art per the above for the purpose of smoothing the histogram [col 5, lines 44-58]

2. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodwell '510 as applied to claims 1, 9 and 13 above, and further in view of US Pat No. 4,870,568 issued to Kahle et al (hereafter Kahle '568).

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Regarding claims 4 and 16, Rodwell '510 discloses the essential elements of the claimed invention except for relevance feedback. Kahle '568 discloses relevance feedback [col 2, line 60 through col 3, line 15]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rodwell '510 to include relevance feedback as taught by Kahle '568 for the purpose of formulating a search strategy [col 2, lines 55-61].

Claims 7, 10, 21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rodwell and applicant admitted prior art and further in view of US Pat No 6,344,319 issued to Bensimon et al (hereafter Bensimon).

Claims 7, 10, 21, 23 and 25:

The combination of Rodwell and applicant admitted prior art discloses the elements of claim 5 as noted above.

The combination of Rodwell and applicant admitted prior art fails to disclose wherein information in the database comprises monospecific probe histograms.

Bensimon discloses wherein information in the database comprises monospecific probe histograms [Figs 1b – 2c]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rodwell and applicant admitted prior art to include wherein information in the database comprises monospecific probe histograms as taught by Bensimon.

The ordinarily skilled artisan would have been motivated to modify the combination of per the above for the purpose of identifying abnormal allele [col 13, lines 15-35]

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Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rodwell, applicant admitted prior art and Bensimon and further in view of Eick.

Claim 8:

The combination of Rodwell, applicant admitted prior art and Bensimon discloses the elements of claims 5 and 7 as noted above.

The combination of Rodwell, applicant admitted prior art and Bensimon fails to disclose wherein the histograms have been subjected to kernel smoothing or kernel density estimation.

Eick discloses wherein the histograms have been subjected to kernel smoothing or kernel density estimation [col 5, lines 44-58].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rodwell, applicant admitted prior art and Bensimon to include wherein the histograms have been subjected to kernel smoothing or kernel density estimation as taught by Eick.

The ordinarily skilled artisan would have been motivated to modify the combination of Rodwell, applicant admitted prior art and Bensimon per the above for the purpose of smoothing the histogram [col 5, lines 44-58].

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rodwell and applicant admitted prior art and further in view of Eick.

Claim 11:

The combination of Rodwell and applicant admitted prior art and Bensimon discloses the elements of claim 9 as noted above.

The combination of Rodwell and applicant admitted prior art fails to disclose wherein the histograms have been subjected to kernel smoothing or kernel density estimation.

Eick discloses wherein the histograms have been subjected to kernel smoothing or kernel density estimation [col 5, lines 44-58].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rodwell and applicant admitted prior art to include wherein the histograms have been subjected to kernel smoothing or kernel density estimation as taught by Eick.

The ordinarily skilled artisan would have been motivated to modify the combination of Rodwell and applicant admitted prior art per the above for the purpose of smoothing the histogram [col 5, lines 44-58].

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rodwell and applicant admitted prior art in view of US Pat No. 4,870,568 issued to Kahle et al (hereafter Kahle '568).

Claim 12:

The combination of Rodwell and applicant admitted prior art discloses the elements of claim 9 as noted above.

The combination of Rodwell and applicant admitted prior art fails to disclose except for relevance feedback.

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Kahle discloses relevance feedback [col 2, line 60 through col 3, line 15].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rodwell and applicant admitted prior art to include relevance feedback as taught by Kahle.

The ordinarily skilled artisan would have been motivated to modify the combination of Rodwell and applicant admitted prior art per the above for the purpose of formulating a search strategy [col 2, lines 55-61].

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bensimon in view of Eick.

Claim 17:

Bensimon discloses comparing two monospecific probe histograms comprising the steps of analyzing a first histogram, analyzing a second histogram and comparing the analyzed histograms.

Bensimon discloses the elements of claim 17 as noted above.

Bensimon fails to disclose kernel smoothing or kernel density estimation;

Eick discloses kernel smoothing or kernel density estimation

Eick discloses wherein the histograms have been subjected to kernel smoothing or kernel density estimation [col 5, lines 44-58].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rodwell and applicant admitted prior art to include

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wherein the histograms have been subjected to kernel smoothing or kernel density estimation as taught by Eick.

The ordinarily skilled artisan would have been motivated to modify the combination of Rodwell and applicant admitted prior art per the above for the purpose of smoothing the histogram [col 5, lines 44-58]

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rodwell and applicant admitted prior art and further in view of Bensimon

Claim 19:

The combination of Rodwell and applicant admitted prior art discloses the elements of claims 1 and 18 as noted above.

The combination of Rodwell and applicant admitted prior art fails to disclose wherein information in the database comprises monospecific probe histograms.

Bensimon discloses wherein information in the database comprises monospecific probe histograms [Figs 1b – 2c]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rodwell and applicant admitted prior art to include wherein information in the database comprises monospecific probe histograms as taught by Bensimon.

The ordinarily skilled artisan would have been motivated to modify the combination of per the above for the purpose of identifying abnormal allele [col 13, lines 15-35]

Response to Arguments

Applicant's arguments filed 12/19/2004 have been fully considered but they are not persuasive.

Applicant states on page 7, "Applicant submits that claims 1, 5, 9 and 13 as amended herein, require that said database comprises monospecific probe properties identified by flow cytometry (claims 1, 5 and 13), or a directory computer containing a database, wherein said database comprises monospecific probe properties identified by flow cytometry (claim 9). Applicant submits that flow cytometry is well know[n] in the art and thus a monospecific probe identified by flow cytometry will be evident to one of skill in the art. Applicant submits that Rodwell '510 does not teach a database comprising monospecific probe properties identified by flow cytometry. As such, Applicant submits that Rodwell '510 does not anticipate the claims as amended."

Examiner notes Applicant's above disclosure that flow cytometry is well known in the art and thus a monospecific probe identified by flow cytometry will be evident to one of skill in the art. Examiner has used above disclosure in supra office action as admitted prior art by applicant.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (703) 305-0620. The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (703) 308-1436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Etienne LeRoux

3/5/2004



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